Minutes of the APSUO Steering Committee Meeting
Held on October 19, 2000, at Argonne National Laboratory

Attendees:

M. Antonio, J. Budai, D. Chapman, S. Dierker, P. Dutta, P. Fenter, D. Haeffner, S. Heald, E. Isaacs, D. Mills, D. Moncton, S. Muchmore, T. Rauchas, A. Rosenzweig, G. Shenoy, B. Stephenson, S. Strasser, C. Vanni, and P. Zschack

Routine Business:

Minutes of the July 12, 2000, meeting were approved, and action items were reviewed. The group congratulated Pulak Dutta on his recent fellowship award from the American Association for the Advancement of Science.

APS Update and Reports:

APS update:
Gopal Shenoy summarized operational statistics for FY 2000. Pointing out the 93.6% availability, Shenoy mentioned the impact of an unusual vacuum failure event during the fourth run. The circumstances surrounding the event have been thoroughly investigated to assure faster mitigation of these types of problems in the future. Currently, the mean time between faults is approximately 30 hours; the goal is 50 hours. Power supplies and rf systems continue to be the main sources for faults. Shenoy discussed the continued growth of the APS user community and reviewed a breakdown of experiments by scientific discipline.

He noted that R&D on beam stability has been a primary focus of operational efforts. Orbit control using x-ray beam position monitors (bpms) has been implemented in three BM sectors (vertical control only) and three ID sectors (both vertical and horizontal control). Vertical pointing stability of 0.2 μrad over 36 hours and horizontal pointing stability of < 1 μrad over 48 hours were achieved. X-ray bpm systems are being investigated for variable-gap operation on ID beamlines.

Shenoy reminded the group about the recent successful week of top-up operation, noting that there were minimal complaints from the community. He also pointed out the PEB's desire to implement the mode on a full-time basis as early as possible. The group discussed the "measured" approach being taken in instituting top-up as the sole operational mode at the APS. It was pointed out that most CATs have not yet made serious attempts to evaluate the impact of top-up on their operations. Shenoy announced a final switch to full top-up mode in approximately one year. This will spur serious investigation on the part of the CATs during upcoming two-week runs. The next scheduled top-up runs include a one-week period in December 2000 and a two-week run in March 2001.

The CAT publications database was discussed at length. Major concerns on this subject are how to best collect the required information on published works and how to ensure that proper credit is given to the beamline(s), the CAT, the APS, and the DOE. It was suggested that the correct APS publication acknowledgment statement be added to the APS User Information Web page. There are currently several avenues for the APS to receive publication information. One involves the use of experiment safety approval forms (ESAFs) to gather the names of users conducting research. All names are then checked against databases such as the American Chemical Society and the American Physical Society to search for paper titles. Abstracts for the

titles are then reviewed to see if the APS was involved in the work. Another method is via reprints or citations submitted directly to the APS User Office by CAT staff or users themselves. The committee suggested that all users be directed to notify CAT administrators about publications that result from their experiments at the APS. It was also suggested that users should be sent a list of their known publications and asked to check it for completeness.

Shenoy reviewed progress in R&D efforts for the linear coherent light source and free-electron laser (FEL) projects. He highlighted a recent exciting result (unpublished) from the APS low-energy undulator test line (LEUTL) facility. For the first time ever, saturation has been seen in the self-amplified spontaneous emission process. Exponential gain in FEL radiation with clear saturation behavior was seen at two wavelengths in the APS LEUTL, which has nine IDs installed.

The status of FY 2001 funding for the APS was discussed. The Office of Science budget situation appears favorable thanks to the efforts of many people, including Judy Biggert (Illinois State Representative) and APS/APSUO personnel (especially Steve Dierker and Eric Isaacs). At this time, the actual budget has not been finalized due to a presidential veto, but the energy budget should not be affected. Shenoy pointed out the importance of APSUO representatives visiting Judy Biggert's office to express thanks for her work and support.

Several APS infrastructure and upgrade projects were reviewed. The liquid nitrogen delivery system on the experiment hall floor is complete and fully operational. An operations support building (attached to LOM 431) is being constructed and will serve as a facility for receiving and delivering actinide samples to APS users and staff. Construction on LOM 436 is slated to begin with funding coming from both the National Institute of General Medical Sciences and DOE/BER. Insertion devices and front ends are being built to support HP- and SER-CATs, and various APS utilities systems are being upgraded to meet the needs of the growing user population. Shenoy emphasized to the group that passage of the President's budget is important to achieving these goals.

In other facility news, the APS currently has 25 sectors with signed MOUs, the most recent of which was Structural GenomiX CAT (SGX-CAT). The "5 to 9 Grill" opened on September 20th and now offers a variety of food items, soups, and salads. Also, the Argonne Guest House provides weekend food service in support to resident users. The recent Program Evaluation Board (PEB) meeting reviewed new Letters of Intent for five more sectors and also reviewed the scientific case for the Inelastic Scattering CAT (IXS-CAT). The PEB also discussed at length the topic of adequate CAT staff to support beamline operations. Ultimately, the total scientific productivity of a facility rests on how well its research resources are maintained and the quality of support offered to its users. The group noted that there have been problems with technical staff being recruited by other CATs; external recruitment needs to be encouraged as a way of enhancing beamline staff. The PEB is contemplating establishing guidelines for beamline staffing levels depending on the type of work being done.

Upcoming workshops and seminars:
Denny Mills briefly described the agenda for the *Detectors for Synchrotron Research* workshop in Washington, D.C., October 30–31, 2000. The invitation-only meeting is intended to establish a roadmap for the future development of synchrotron detector applications. It is hoped that a white paper will result. The second meeting reviewed by Mills is an APS-hosted workshop on November 17, 2000, entitled *Multiple Beamlines from Single Insertion Points*. The goal of the workshop is to discuss the pros and cons of the meeting topic in a round-table-style forum. Mills will solicit nominations for appropriate meeting attendees from the CAT directors. It was suggested that a representative from the APSUO also be included.

End-of-run summary form:
The end-of-run summary form (which will be linked to the ESAF number and available on the Web) is needed to collect important information from researchers at the conclusion of their experiments to evaluate CAT and APS operations. The group had serious misgivings about the level of cooperation that the APS can expect in having the form completed before each research group leaves the APS (after completing their beam time). Several suggestions were discussed that might possibly increase use of the form including distributing a hard-copy version of the form with the ESAF at the start of the experiment; linking the Web-based version of the form to CAT home pages to minimize hunting for the form; and informing users that if no form is received at the conclusion of an experiment, no beam time will be allotted in the future. The responses will be archived in a database that will be accessible by identified CAT staff. One concern raised was database security with respect to proprietary information that may be collected by the form. Any CAT-specific questions that need to be added to the form should be forwarded to Susan Strasser.

Operational calendar update:
Tony Rauchas reviewed the top-up shifts scheduled on the FY 2001 calendar, including the possibility of expanding the June/July 2001 shift by an additional 18 shifts. The APS is planning to switch to full-time top-up operation during the first run of FY 2002. Much planning has been done to standardize the run schedule, including establishing fixed start and planned-interruption days and minimizing user operations during holidays. The goal is to provide 5000+ hours of user beam time per year.

Rauchas reminded the group about the current run schedule format and cited some of its drawbacks, including the inefficiency of the short maintenance periods and the difficulty of machine start-ups. The APS is proposing a schedule modification that will have benefits on many levels. The new schedule would include three user runs and three (longer) maintenance periods. This format would eliminate one start-up, optimize maintenance periods, and even allow for more user hours of beam per year. The new schedule will be phased in gradually and should be fully in place in FY 2003. To do an abrupt switch to the new schedule would result in a loss of user beam hours.

APS Independent Investigator (II) proposal submission and review process: status report:
Susan Strasser reviewed the content of the II proposal submission information on the Web. The group discussed at length a variety of suggested improvements to both the submission information and overall process. The main concern expressed was that the current situation (with multiple submission and review deadlines and multiple review processes) could be confusing to IIs and potentially lead to long delays in the acceptance of proposals or scheduling of beam time. Other (less-critical) concerns involved minor wording issues in the content of the form, as well as comments on the format. (Many of the suggested changes are being addressed.) One additional suggestion was the addition of the ability to copy an existing proposal in order to make changes and resubmit it as a new proposal. By consensus, the Committee agreed to have Eric Isaacs present these concerns to the Research Directorate and offer the following recommendations to them:

- Establish a uniform schedule (cycle) for all CATs to accept, review, and decide on II proposals (three times per year to correspond with the eventual APS user run cycle is the current APSUO Steering Committee thinking).
- Strongly encourage all CATs to participate in the APS central review process
- CAT with similar interests/capabilities meet immediately after the decision date to “horse-trade” proposals that are good but can’t be scheduled expeditiously.

Additional issues were discussed, including quick-turnaround beam time access, how to handle people asking for more time against an existing proposal, and how to fairly rank proposals that are carried over to the next scheduling session

Executive Session:

2001 User Calendar:
Strasser pointed out that APSUO meeting dates have been set for the upcoming fiscal year. The dates for the Eleventh Users Meeting have been slated for October 9–11, 2001.

Preliminary planning: Eleventh Users Meeting for the APS:
Paul Zschack told the group that it is time to start thinking about workshop topics for 11UM. APSUO members should e-mail their ideas to Zschack. Additionally, a nominating committee will be formed at the next Steering Committee meeting for the 11UM election (at which the e-voting format will be implemented).

PEB Meeting report:
Zschack reported that the concerns discussed by the PEB were appropriate CAT staffing levels, CAT publications, and a course of action for when the APS ring is fully occupied. It was noted that as the facility is maturing, so too must the PEB evolve to best fulfill its role.

Future informative visits to Congress and/or Germantown should be discussed at the next SC meeting. Steve Dierker noted that the efforts pursued over the past year to provide information were well received at every level. User input on the FY 2002 budget could be needed as early as January 2001.

Next Meeting:

The next meeting of the APSUO Steering Committee will be held Thursday, January 25, 2001.

APSUO SC 10/19/00 meeting Action Items:

1. Add the proper APS publication acknowledgment to the User Information Web page. **(S. Strasser)**

2. Address the concern about proprietary information being archived in the end-of-run summary form database. **(S. Strasser)**

3. Address specific content and format changes to the II proposal form as appropriate. **(S. Strasser)**

4. Present II process recommendations from the Steering Committee to the Research Directorate **(E. Isaacs)**

5. Forward ideas for workshop topics for 11UM to Paul Zschack. **(all Steering Committee members)**

6. Add these topics to the agenda for the next APSUO Steering Committee Meeting:
   1) establish a nominating committee for the 11UM APSUO SC election,

2) discuss a potential visit to DOE headquarters during the next round of funding support visits, and
3) discuss the timing of the next visit to Congress. **(S. Strasser)**

7. Draft a letter of thanks to Judy Biggert for her support with funding (to be sent after the budget has passed). **(E. Isaacs and S. Strasser)**